UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,450	12/11/2000	Jacob M. McGuire	112025-0460	4360

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EXAMINER
CHOUDHARY, ANITA

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/734,450	MCGUIRE, JACOB M.
Office Action Summary	Examiner	Art Unit	
	Anita Choudhary	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 December 2000</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>20 March 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>20041206</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claims 1-18 are pending.

Priority

This application claims benefit of Provisional Application 60/236,555 filed 09/29/2000. The effective filing date for the subject matter defined in the pending claims in the application is 09/29/2000.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 7, 8, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 7, and 13 recite "server's capacity to handle connections." It is unclear how the server's capacity is being measured. Server connection capacity can be measured in many ways, such as, number of connections, bandwidth, or transmission rate. For examination purposes, Examiner has interpreted "the server's capacity to handle connections" to be the total number of possible connections that the server can to handle. Nonetheless, clarification is requested.

In referring to claim 2, 8, and 14, the term "quotient/remainder", more specifically the term "remainder" seems to be used in the claim to mean the number of inactive connections available by the server obtained by subtraction (i.e. something left after other parts have been taken away), while the accepted meaning for "remainder" in relation to division is "the part of the dividend that is left over when the dividend is not evenly divisible by the divisor." The term is indefinite because the specification does not clearly define the term. Generally, the term "remainder" has two different meanings in arithmetic functions as applied in subtraction and division. Interpretation of claim language in lines 3-5 shows that the remainder is obtained by divisions, however in evaluating the rest of the claim (lines 7 and 8), it appears that the remainder is obtained by subtraction. The conflicting claim language should be addressed by applicant and fully clarified in order to receive the correct interpretation. For purposes of examination, the term "remainder" is taken to be the server's capacity measured by the total number of possible connections that the server can handle minus the number of active server connections. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 7, 13 are rejected under 35 U.S.C. 102(a) as being anticipated by He et al.

(6,671,259).

He shows a load balancing method used for reducing server congestion and distributing

client request's to different servers by selecting the optimal server. A load-balancing server

selects on server out of subset of a plurality of servers based on a predetermined criteria such as

load level (see summary, col.2). He further identifies these subsets or categories to be

characterized by network load measurements, including number of active connections (col. 4

lines 25-41). He shows the following:

- providing a plurality of control blocks (high load, low load categories), each control block

  associated with a number of active connections a server is connected with, the control block

  configured to control at least one server with the associated number of connections in a

  server list (col. 4 lines 25-33);

- causing each control block to point to a server (18a) with a least value ascertained by

  determining the number of connections on the server relative to the server's capacity to

  handle connections (col. 4 lines 5-24 and 34-41);

- selecting the control block associated with the least number of connections (col. 4 lines 44-

    46); and

- selecting the server pointed to by the control block (col. 4 lines 41-44).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 2, 3, 5, 8, 9, 11, 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over He et al. (6,671,259) in view of Yu et al. (US 6,298,371)

In referring to claims 2, 8, and 14, although He teaches substantial features of the claimed

invention, He does not show a step for determining a metric of the server by dividing the number

of connection by the server capacity. Nonetheless this feature is well known in the art, and would

have been an obvious modification to the system disclosed by He as evidenced by Yu.

In an analogous art, Yu shows a system for load balancing client requests, wherein clines

are grouped based on request load. Each group is assigned among the nodes, thus avoiding high

load groups from being assigned to the same node and overloading the system (see abstract). Yu

shows:

- determining a metric of the server by dividing the number of connections on the

- server by the capacity of the server, wherein the metric is kept as a quotient/remainder pair (col. 3 lines 42-55, Note that server utilization percentage implies the active server utilization divided by total server capacity);

- storing the quotient/remainder pair in the control block (col. 7 lines 3-9);

- incrementing the remainder by one for every connection added to the server; and decrementing the remainder by one for every connection removed from the server (col. 7 lines 14-22, col. 8 lines 25-33).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by He to employ the features taught by Yu in order to track and schedule client request to most powerful server able to handle a larger number of requests (col. 3 lines 49-55).

In referring to claims 3, 9, and 15, He shows method for causing the control block with the server having an added/removed connection to transfer the server to an adjacent control block, wherein the adjacent control block is associated with the number of connections pertaining to the transferring server (col. 8 lines 28-44); causing the control block to transfer the metric of the server to the adjacent control block (col. 7 lines 60- col. 8 line 3); and updating the pointer to point to the next server on the list of the control block (col. 8 lines 28-44).

In referring to claims 5, 11, and 17, He shows method for causing the adjacent control block to receive the transferring server (col. 8 lines 28-44); causing the adjacent control block to receive the metric of the transferring server (col. 7 lines 60- col. 8 line 3); causing the adjacent control block to update and sort the server list (col. 8 lines 28-44).

Claims 4, 6, 10, 12, 16, and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over He et al. (6,671,259) in view of Yu et al. (US 6,298,371) in view of Ernst (US

6,298,371).

In referring to claims 4, 10, and 16, although the combined teachings of He and Yu show

substantial features of the claimed invention, as discussed above, it fails to disclose removing the

control block. Nonetheless, this feature is well known in the art and would have been an obvious

modification to He and Yu as evidenced by Ernst.

In an analogous art, Ernst shows a method for generating and deleting control blocks as

needed in order to improve resource availability. Ernst shows a DELETE CONTROL BLOCK

operation for buffer control block when it is not being utilized (col. 7 lines 54-60).

Given this feature, a person of ordinary skill in the art would have readily recognized

the desirability and advantages of modifying the system shown by He and Yu to employ the

feature shown by Ernst, in order to maximize memory utilization.

In referring to claims 6, 12, and 18, Ernst shows adding a control block if there is no

control block associated with server transmissions (col. 6 lines 47-59).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Anita Choudhary whose telephone number is (703) 305-5268.

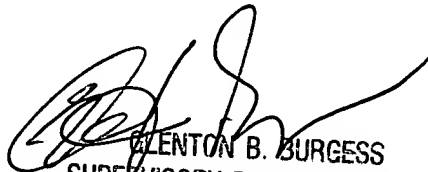The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Glenton Burgess can be reached on (703) 305-4792. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anita Choudhary
December 8, 2004

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